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METHODS AND SYSTEMS FOR MANAGING ACCESS TO SHARED RESOURCES USING CONTROL FLOW

5 ABSTRACT OF THE DISCLOSURE

Computer systems have resources that are often shared by plural processes (or threads). It is often desirable to limit access to these shared resources to one process at a time. Historically locks were used in conjunction with conditional tests to provide exclusive access to a region of code or data. Instead, a global variable contains a
10 pointer to either a protected resource, or an exchange instruction. A process exchanges its' local variable with the global variable and jumps to the location in the exchanged local variable. If the global variable had the pointer to the shared resource before the exchange, then the jump enters the protected region. If not, the jump returns to exchange variables again. As soon as the pointer to the protected resource is returned to
15 the global variable, a next exchange and jump will access the shared resource.